

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/567,876  
Source: IFWP  
Date Processed by STIC: 11/01/2006

# ***ENTERED***



IFWP

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/10/567,876

TIME: 14:42:01

Input Set : N:\Crif3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

1 <110> APPLICANT: Lovelace Respiratory Research Institute  
 2 Tesfaigzi, Yohannes  
 3 Belinsky, Steven A.  
 4 <120> TITLE OF INVENTION: Metalloproteinase Gene Polymorphism in COPD  
 5 <130> FILE REFERENCE: 41543-0302  
 C--> 6 <140> CURRENT APPLICATION NUMBER: US/10/567,876  
 7 <141> CURRENT FILING DATE: 2006-02-08  
 8 <150> PRIOR APPLICATION NUMBER: PCT/US04/26035  
 9 <151> PRIOR FILING DATE: 2004-08-11  
 10 <150> PRIOR APPLICATION NUMBER: US 60/494,631  
 11 <151> PRIOR FILING DATE: 2003-08-11  
 12 <160> NUMBER OF SEQ ID NOS: 17  
 13 <170> SOFTWARE: PatentIn version 3.3  
 15 <210> SEQ ID NO: 1  
 16 <211> LENGTH: 22  
 17 <212> TYPE: DNA  
 18 <213> ORGANISM: Artificial  
 19 <220> FEATURE:  
 20 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP  
 21 <400> SEQUENCE: 1  
 22 ctctacaccc gggacggcaa tg 22  
 24 <210> SEQ ID NO: 2  
 25 <211> LENGTH: 24  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Artificial  
 28 <220> FEATURE:  
 29 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP  
 30 <400> SEQUENCE: 2  
 31 actctacacc caggacggca atgc 24  
 33 <210> SEQ ID NO: 3  
 34 <211> LENGTH: 19  
 35 <212> TYPE: DNA  
 36 <213> ORGANISM: Artificial  
 37 <220> FEATURE:  
 38 <223> OTHER INFORMATION: Synthetic sense primer for MMP-9 Gln279Arg SNP  
 39 <400> SEQUENCE: 3  
 40 tctccccctt tcccacatc 19  
 42 <210> SEQ ID NO: 4  
 43 <211> LENGTH: 19  
 44 <212> TYPE: DNA  
 45 <213> ORGANISM: Artificial  
 46 <220> FEATURE:  
 47 <223> OTHER INFORMATION: Synthetic antisense primer for MMP-9 Gln279Arg SNP

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/567,876

DATE: 11/01/2006

TIME: 14:42:01

Input Set : N:\Crif3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

```

48 <400> SEQUENCE: 4
49   tgtgctgtct ccgccttct                                     19
51 <210> SEQ ID NO: 5
52 <211> LENGTH: 10
53 <212> TYPE: DNA
54 <213> ORGANISM: Artificial
55 <220> FEATURE:
56 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP
57 <400> SEQUENCE: 5
58   tctacacccg                                              10
60 <210> SEQ ID NO: 6
61 <211> LENGTH: 10
62 <212> TYPE: DNA
63 <213> ORGANISM: Artificial
64 <220> FEATURE:
65 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP
66 <400> SEQUENCE: 6
67   gggacggcaa                                              10
69 <210> SEQ ID NO: 7
70 <211> LENGTH: 10
71 <212> TYPE: DNA
72 <213> ORGANISM: Artificial
73 <220> FEATURE:
74 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP
75 <400> SEQUENCE: 7
76   tctacaccca                                              10
78 <210> SEQ ID NO: 8
79 <211> LENGTH: 10
80 <212> TYPE: DNA
81 <213> ORGANISM: Artificial
82 <220> FEATURE:
83 <223> OTHER INFORMATION: Synthetic Probe for MMP-9 Gln279Arg SNP
84 <400> SEQUENCE: 8
85   aggacggcaa                                              10
87 <210> SEQ ID NO: 9
88 <211> LENGTH: 707
89 <212> TYPE: PRT
90 <213> ORGANISM: Homo sapiens
91 <220> FEATURE:
92 <221> NAME/KEY: MISC_FEATURE
93 <222> LOCATION: (279)..(279)
94 <223> OTHER INFORMATION: Xaa is Gln in the common variant and Arg in the rare variant
95 <400> SEQUENCE: 9
96   Met Ser Leu Trp Gln Pro Leu Val Leu Val Leu Leu Val Leu Gly Cys
97   1           5           10           15
98   Cys Phe Ala Ala Pro Arg Gln Arg Gln Ser Thr Leu Val Leu Phe Pro
99           20           25           30
100  Gly Asp Leu Arg Thr Asn Leu Thr Asp Arg Gln Leu Ala Glu Glu Tyr
101           35           40           45

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/567,876

DATE: 11/01/2006

TIME: 14:42:01

Input Set : N:\Crif3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

```

102   Leu Tyr Arg Tyr Gly Tyr Thr Arg Val Ala Glu Met Arg Gly Glu Ser
103       50                               55                               60
104   Lys Ser Leu Gly Pro Ala Leu Leu Leu Leu Gln Lys Gln Leu Ser Leu
105       65                               70                               75                               80
106   Pro Glu Thr Gly Glu Leu Asp Ser Ala Thr Leu Lys Ala Met Arg Thr
107                               85                               90                               95
108   Pro Arg Cys Gly Val Pro Asp Leu Gly Arg Phe Gln Thr Phe Glu Gly
109                               100                               105                               110
110   Asp Leu Lys Trp His His His Asn Ile Thr Tyr Trp Ile Gln Asn Tyr
111                               115                               120                               125
112   Ser Glu Asp Leu Pro Arg Ala Val Ile Asp Asp Ala Phe Ala Arg Ala
113       130                               135                               140
114   Phe Ala Leu Trp Ser Ala Val Thr Pro Leu Thr Phe Thr Arg Val Tyr
115       145                               150                               155                               160
116   Ser Arg Asp Ala Asp Ile Val Ile Gln Phe Gly Val Ala Glu His Gly
117                               165                               170                               175
118   Asp Gly Tyr Pro Phe Asp Gly Lys Asp Gly Leu Leu Ala His Ala Phe
119                               180                               185                               190
120   Pro Pro Gly Pro Gly Ile Gln Gly Asp Ala His Phe Asp Asp Asp Glu
121       195                               200                               205
122   Leu Trp Ser Leu Gly Lys Gly Val Val Val Pro Thr Arg Phe Gly Asn
123       210                               215                               220
124   Ala Asp Gly Ala Ala Cys His Phe Pro Phe Ile Phe Glu Gly Arg Ser
125       225                               230                               235                               240
126   Tyr Ser Ala Cys Thr Thr Asp Gly Arg Ser Asp Gly Leu Pro Trp Cys
127                               245                               250                               255
128   Ser Thr Thr Ala Asn Tyr Asp Thr Asp Asp Arg Phe Gly Phe Cys Pro
129       260                               265                               270
W--> 130   Ser Glu Arg Leu Tyr Thr Xaa Asp Gly Asn Ala Asp Gly Lys Pro Cys
131       275                               280                               285
132   Gln Phe Pro Phe Ile Phe Gln Gly Gln Ser Tyr Ser Ala Cys Thr Thr
133       290                               295                               300
134   Asp Gly Arg Ser Asp Gly Tyr Arg Trp Cys Ala Thr Thr Ala Asn Tyr
135       305                               310                               315                               320
136   Asp Arg Asp Lys Leu Phe Gly Phe Cys Pro Thr Arg Ala Asp Ser Thr
137                               325                               330                               335
138   Val Met Gly Gly Asn Ser Ala Gly Glu Leu Cys Val Phe Pro Phe Thr
139       340                               345                               350
140   Phe Leu Gly Lys Glu Tyr Ser Thr Cys Thr Ser Glu Gly Arg Gly Asp
141       355                               360                               365
142   Gly Arg Leu Trp Cys Ala Thr Thr Ser Asn Phe Asp Ser Asp Lys Lys
143       370                               375                               380
144   Trp Gly Phe Cys Pro Asp Gln Gly Tyr Ser Leu Phe Leu Val Ala Ala
145       385                               390                               395                               400
146   His Glu Phe Gly His Ala Leu Gly Leu Asp His Ser Ser Val Pro Glu
147       405                               410                               415
148   Ala Leu Met Tyr Pro Met Tyr Arg Phe Thr Glu Gly Pro Pro Leu His
149       420                               425                               430
150   Lys Asp Asp Val Asn Gly Ile Arg His Leu Tyr Gly Pro Arg Pro Glu

```

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/10/567,876

TIME: 14:42:01

Input Set : N:\CrF3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

```

151          435          440          445
152      Pro Glu Pro Arg Pro Pro Thr Thr Thr Thr Pro Gln Pro Thr Ala Pro
153          450          455          460
154      Pro Thr Val Cys Pro Thr Gly Pro Pro Thr Val His Pro Ser Glu Arg
155      465          470          475          480
156      Pro Thr Ala Gly Pro Thr Gly Pro Pro Ser Ala Gly Pro Thr Gly Pro
157          485          490          495
158      Pro Thr Ala Gly Pro Ser Thr Ala Thr Thr Val Pro Leu Ser Pro Val
159          500          505          510
160      Asp Asp Ala Cys Asn Val Asn Ile Phe Asp Ala Ile Ala Glu Ile Gly
161          515          520          525
162      Asn Gln Leu Tyr Leu Phe Lys Asp Gly Lys Tyr Trp Arg Phe Ser Glu
163          530          535          540
164      Gly Arg Gly Ser Arg Pro Gln Gly Pro Phe Leu Ile Ala Asp Lys Trp
165      545          550          555          560
166      Pro Ala Leu Pro Arg Lys Leu Asp Ser Val Phe Glu Glu Pro Leu Ser
167          565          570          575
168      Lys Lys Leu Phe Phe Phe Ser Gly Arg Gln Val Trp Val Tyr Thr Gly
169          580          585          590
170      Ala Ser Val Leu Gly Pro Arg Arg Leu Asp Lys Leu Gly Leu Gly Ala
171          595          600          605
172      Asp Val Ala Gln Val Thr Gly Ala Leu Arg Ser Gly Arg Gly Lys Met
173          610          615          620
174      Leu Leu Phe Ser Gly Arg Arg Leu Trp Arg Phe Asp Val Lys Ala Gln
175      625          630          635          640
176      Met Val Asp Pro Arg Ser Ala Ser Glu Val Asp Arg Met Phe Pro Gly
177          645          650          655
178      Val Pro Leu Asp Thr His Asp Val Phe Gln Tyr Arg Glu Lys Ala Tyr
179          660          665          670
180      Phe Cys Gln Asp Arg Phe Tyr Trp Arg Val Ser Ser Arg Ser Glu Leu
181          675          680          685
182      Asn Gln Val Asp Gln Val Gly Tyr Val Thr Tyr Asp Ile Leu Gln Cys
183          690          695          700
184      Pro Glu Asp
185      705
187 <210> SEQ ID NO: 10
188 <211> LENGTH: 7639
189 <212> TYPE: DNA
190 <213> ORGANISM: Homo sapiens
191 <220> FEATURE:
192 <221> NAME/KEY: misc_feature
193 <222> LOCATION: (2665)..(2665)
194 <223> OTHER INFORMATION: n is a in the common variant and g in the rare variant
195 <400> SEQUENCE: 10
196      tcaccatgag cctctggcag cccctgggtcc tgggtgctcct ggtgctgggc tgctgctttg      60
197      ctgccccccag acagcgccag tccacccttg tgctcttccc tggagacctg agaaccaatc      120
198      tcaccgacag gcagctggca gaggtgggca aacacctagt ctagagttgg ggagggtgt      180
199      ccgtgagggt gttgagtgtc ccagagagga tgcagggcct cagaggagat gctttagggg      240
200      tgtgttggtg gtgatgggcg tatctgaaga acagagggtgt ccagggttag gcagtggggg      300

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/567,876

DATE: 11/01/2006

TIME: 14:42:01

Input Set : N:\Crif3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

201	gtcttgtgga	ggctttgagc	agtgatggcc	agaaatgggc	aatggggctt	tcctaggtgg	360
202	gaaatgggaa	atggtttggg	gtgggggagg	cattggaggg	ttctggggta	agcataggct	420
203	gggagtgaac	aggggcaaac	cttatgcagc	tgtggggtag	aaatgggcta	gaggcatcca	480
204	ggggtgagaa	ggagctgagg	atgtctaagg	aggggagatc	cctgggtggg	cagaaagcac	540
205	tgggtgctgg	aaagcattta	atgctttatt	aaatgttagt	ccctgctggg	catgacggct	600
206	cacacttgta	atcccagcac	tttgggaggc	tgaggtggtg	ggatcgctga	agctcaggag	660
207	tttgagccca	gcctaggcaa	catagtaaga	tctgtctctc	acaaaaaaat	taaagaaata	720
208	gccaggcaca	gtgatgtgca	ctgtagttc	cagctatgca	gaaggctgag	atgggaggat	780
209	cgcttgagtc	caggaggtcc	aggctgcagt	gggctgatac	cgtctctccg	aaaaagaaaa	840
210	agaaaaaaga	ctccctccat	gagtgtctgg	agggagtcct	ttggccccag	ctgggcagag	900
211	aaaggggtca	gagatctggc	atgtgtgtgt	cccttcatcc	acaggaatac	ctgtaccgct	960
212	atggttacac	tgggtgggca	gagatgcgtg	gagagtcgaa	atctctgggg	cctgcgctgc	1020
213	tgcttctcca	gaagcaactg	tccctgcccg	agaccggtga	gctggatagc	gccacgctga	1080
214	aggccatgcg	aacccacagg	tgcggggtcc	cagacctggg	cagattccaa	acctttgagg	1140
215	gcgacctcaa	gtggcaccac	cacaacatca	cctattgggtg	agccggggcc	gtgggggcag	1200
216	cgggggtggg	cggggaggcc	aggtctggct	cttgggccag	cggtgaacat	gtcctgtctt	1260
217	ggacgcgtcc	ctgggtttca	ctatttaattg	tgtggccctc	ggggagtgtc	cccacctctg	1320
218	agcctctgtt	tctccttcag	ggaaatggct	cttgcaatcc	aagtctctct	gccagggcca	1380
219	ttgtgagggg	ctaagttagc	aaaaaaaaaa	aaaaaaaaaa	cagtctggaa	gcaatttata	1440
220	gatgagagcg	tggacggcag	agagcattgt	gtatgttgaa	gtctctgcga	tatgggggtg	1500
221	ccctgctgcc	ccgctccagc	ctttcacttc	tgacctcctt	cctctggctc	ttacgctaca	1560
222	ggatccaaaa	ctactcgga	gacttgccgc	ggcggtgat	tgacgacgcc	tttggccgcg	1620
223	ccttcgcact	gtggagcgcg	gtgacgccgc	tcaccttcac	tcgctgttac	agccgggacg	1680
224	cagacatcgt	catccagttt	ggtgtcgcg	gtgagaacgt	gaggaggga	aatccaagag	1740
225	acctgggcgg	ggtcagggaa	gggaggacca	cggagagcgt	ggaggcagca	gtggccccgg	1800
226	cttcctcttg	cctgcccgcg	ctgccctggc	ttatacggcc	cctcctgcca	gacagtgcac	1860
227	agggccaggg	cgccaggctg	ggagagcttc	gcgcaggcgg	gatttcagcc	cgcacttatt	1920
228	tggagccct	tgccttgggc	agcgcacaat	ctgcgcagca	gtactcggct	aacctcttc	1980
229	ctctcgacct	gtttcttcag	agcacggaga	cgggtatccc	ttcgacggga	aggacgggct	2040
230	cctggcacac	gcctttcctc	ctggccccgg	cattcaggga	gacgcccatt	tcgacgatga	2100
231	cgagttgtgg	tccctgggca	agggcgtcgg	tgagattctg	agtcctcctg	gcccctgatt	2160
232	cccttcattc	tctccactc	atcacccgcc	gccctaactc	cgtcccccc	tctctctgca	2220
233	gtggttccaa	ctcggttgg	aaacgcagat	ggcgcgccct	gccacttccc	ctctcatctt	2280
234	gagggccgct	cctactctgc	ctgcaccacc	cggttctgct	ccgacggctt	gccctggtgc	2340
235	agtaccacgg	ccaactacga	caccgacgac	cggtttggct	tctgccccag	cgagagttag	2400
236	tgagggggct	cgccgagggc	tgggggcgcc	caccaccctt	gatggctcctg	ggttctaatt	2460
237	ccagctctgc	cactagtgtc	gtgtggcctg	caattcaccc	tcccgcactc	tgggccaat	2520
238	tttctcatct	gagaaatgat	gagagatggg	atgaactgca	gaccatccat	gggtcaaaga	2580
239	acaggacaca	cttgggggtt	ataatgtgct	gtctccgcct	tctccccctt	tcccacatcc	2640
W--> 240	tcctcgcccc	aggactctac	accnnggacg	gcaatgctga	tgggaaaccc	tgccagtttc	2700
241	cattcatctt	ccaaggccaa	tcctactccg	cctgcaccac	ggacggtcgc	tccgacggct	2760
242	accgctgggtg	cgccaccacc	gccaaactacg	accgggacaa	gctcttcggc	ttctgcccga	2820
243	cccaggttac	ctccaccctg	tctaccaggt	tcagccccgc	cctctcatca	tgtattggcc	2880
244	cccaaacgc	ggtcttccc	tcccatcagt	ttgtctttcc	actctcattg	gtcctcagga	2940
245	cgaccgtgac	tccgcccacc	tacaccacat	ttccaccact	atccctgact	tccaatggcc	3000
246	ccgccccagc	cactaagggtt	cggccttttc	tgccagctg	gccgcctctt	ccttgggtctg	3060
247	gtgtcccagg	caccgcccac	gggtctagcc	tcttctcagg	agtgtcttac	agcgcctcct	3120
248	aggccaccaa	gattgtttag	ctccctgtcg	ggtcggcccc	tgactcctta	ttggactcat	3180
249	ccatctggct	catccaaggc	cttgggtctc	tccagctgac	tcgacggtga	tggggggcaa	3240

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/567,876

DATE: 11/01/2006  
TIME: 14:42:02

Input Set : N:\Crf3\RULE60\10567876.RAW  
Output Set: N:\CRF4\11012006\J567876.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; Xaa Pos. 279

Seq#:10; N Pos. 2665

Seq#:11; N Pos. 841

**Invalid Line Length:**

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:9; Line(s) 94

**Invalid <213> Response:**

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,12,13,14,15,16,17

**VERIFICATION SUMMARY**

DATE: 11/01/2006

PATENT APPLICATION: US/10/567,876

TIME: 14:42:02

Input Set : N:\Crf3\RULE60\10567876.RAW

Output Set: N:\CRF4\11012006\J567876.raw

L:6 M:270 C: Current Application Number differs, Replaced Current Application Number

L:130 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:272

L:240 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:2640

L:348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:840